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ABSTRACT

A scheduler allowing high-speed scheduling scalable with the number of input and output ports of a crosspoint switch and suppressed unfairness among inputs is disclosed. The scheduler includes an $M \times M$ matrix of scheduling modules, each 5 of which schedules packet forwarding connections from a corresponding input group of input ports to selected ones of a corresponding output group of output ports based on reservation information. A diagonal modulo pattern is used to determine a set of M scheduling modules to avoid coming into 10 collision with each other. Each determined scheduling module performs reservation of packet forwarding connections based on current reservation information and transfers updated reservation information in row and column directions of the $M \times M$ matrix.